

ON THE USE OF
ALCOHOLIC LIQUORS IN GENERAL
AND OF
THE WINE
OF
ST. RAPHAEL

IN PARTICULAR

IN TEMPERATE AND COLD COUNTRIES

BY

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(An extract from the Lectures on the Hygienic Modifiers of the Nervous System.)

Translated from the French



PARIS

J.-B. BAILLIÈRE AND SONS, RUE HAUTEFEUILLE

Publishers to the Académie de Médecine.

LONDON

BAILLIÈRE, TINDALL AND COX

King William street, Strand

MADRID

C. BAILLY-BAILLIÈRE,

Piazza Santa Ana

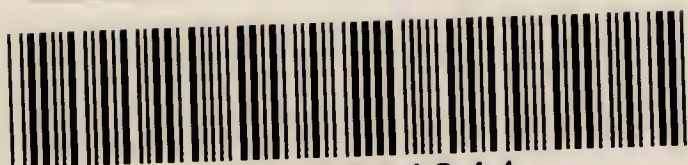
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ON THE USE OF
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As a general rule we find, the farther north we go, the greater is the use made of alcohol. The dangerous effects of rather large doses diminish with the lowering of the external atmosphere. But excess in strong drinks is dangerous everywhere and always. Alcohol has a twofold part to play in nutrition. It is, as we and M. Sandras have shown, an equally rapid and energetic factor of heat. If the apparatus of nutrition be less imperilled by an equal dose of alcohol in cold countries than in the inter-tropical regions, still we must always keep in mind the specific action exercised by alcohol on the nervous

nervous apparatus

system. M. Magnus Huss has explained minutely all the evils it may give rise to. But although brandy and alcohol, in its various forms, are dangerous, it is quite the contrary with wine in which the action of the alcohol is moderated by favourable combinations. Important distinctions are to be made in this respect in the different classes of wine. The most wholesome are certainly natural wines rich in tannin, among which there are none that surpass the wine of St. Raphael, which has been now for many years the real therapeutic wine in France. One cannot imagine a happier union of immediate principles, apt to rouse the energy of the nutritive functions, and to invigorate, without overexciting, the nervous system. We shall now proceed to the demonstration of these principles.

Wine is the most important and the most useful of fermented liquors. When I have described its composition, it will be easy to judge how different its action must be from that of strong liquors.

AVERAGE COMPOSITION OF 1000 PARTS OF RED WINE.

Water		878
Vinous alcohol		100
Butyric alcohol	}	Traces
Amylic alcohol		
Aldchydes, several		
Acetic, capric, caprylic, etc., ethers	}	Bouquet
Perfumes, essential oils.		
Sugars, mannite, glycerine, mucilage, gums . . .	}	22
Colouring matters (ænocyanine)		
Fatty matters.		
Azotized matters (ferments)		
Tannin, carbonic acid.		
Tartrate, acid of potash (six grammes at most) . .		
Tartrates, racemates.		
Acetates, propionates		
Butyrates, lactates.		
Citrates, malates.		
Sulphates, azotates.	}	with an excess of acid.
Phosphates, silicates.		
Chlorides, bromides		
Iodides, fluorides		
Succinates.		
Potash, soda, lime (traces), magnesia, oxide of iron, ammonia		

How many different principles enter into the composition of wine! and my list is far from being complete. Some of the acids mentioned may be free, but almost all exist in the state of salt with an excess of acid. It is evident that some of the substances I have mentioned may be wanting in some

wines, and that several are only found in fractions of a milligramme to a litre.

The proportion of alcohol in natural wines varies from 5 to 15 per 100.

The following table shows the proportion in the principal wines.

AVERAGE RICHNESS IN ALCOHOL OF THE PRINCIPAL WINES.

Rouge d'Avallon, 1834.	11.14
White Pineau Chablis, 1842	12.54
Red Cahors, 1811.	12.08
White Cahors, 1811.	12.33
Red Bordeaux, 1841.	10.10
Saint Raphaël.	15.16
Hermitage.	11.00
Sparkling Sillery.	from 9 to 11.00

Alcohol plays, no doubt, the principal part in the physiological and hygienic action of wine ; but its influence is modified by several other immediate principles. I shall say a few words about the principal ones.

Tannin and the colouring matters come from the skin of the grape and from the grape-stone. Is the tannin of wine the same as that of the gall-nut? It is not likely, but we must admit that a serious study of this immediate principle of the grape has not yet been made. M. Glénard has isolated from red wine

two colouring matters which appear to be distinct immediate principles.

Tannin, of which some wines contain a large proportion, has a most important moderating action.

Acids are always present, whether in a free state or as salts, with a strongly marked acid reaction. Cream of tartar is found in wine in the proportion of from 2 to 6 per 1000.

M. Pasteur has made the important discovery that succinic acid is, like alcohol, a constant result of the separation of the sugars under the influence of alcoholic ferments; this acid is therefore found in wine. This is also the case with glycerine, of which there is a very large proportion, and which, previous to the learned professor's investigations, was confounded with what are called extractive matters.

X The bases are almost as numerous in wine as the acids, and are those usually found in living organisms : for instance potash and soda, which in small quantities are met with in the state of chloride, as in the human blood and muscles.

How many different elements are combined to form the product called *bouquet*! It is the result of the union of several odoriferous matters : alcohols, ethers, aldehydes, essences; substances analogous to the principles which M. Millon has called perfumes.

impressed as France combines in the exact state

X It is easy to understand how futile all attempts at the imitation of so complicated a product must be.

The action of wine in nutrition.

When we wish to ascertain what is the influence of wine in nutrition, we perceive at once the importance of the association of alcohol with a decidedly acid liquid; not only do the two flavours, the acid and the alcoholic, combine agreeably, but also, taken together, the acid moderates the destructive energy of the alcohol in the economy, and thereby diminishes its excessive action on the nervous system.

X Tannin and the colouring matters have an action on the stomach which may often be considered favourable : the bouquet which gratifies taste and smell must have some hygienic utility, for we know from the observation of many other facts, that very small quantities of sapid substances have a good influence on nutrition.

Wine, whose density is nearly that of water, is less rapidly absorbed than brandy; this again is a favourable circumstance, which, spreading the absorption and utilisation of the alcohol over a longer period, diminishes the dangers of excess. With the same quantity of alcohol, red wine is less intoxica-

ting and shakes the nervous system less than brandy.

Wine is absorbed without undergoing any other modification than that of being diluted with water by its mixture with the gastric juice; the digestive ferments are not required for its absorption and further share in nutrition. This explains very clearly the use of wine in apyretic diseases.

X The complexity of the organic materials which enter into the composition of wine, and which, in some respects, are like those of the human organism, quite account for the restorative action of wine on persons who are exhausted by anæmia and by an insufficient alimentation.

Wine is much better for sailors than brandy, which sometimes has to be given them, because of the difficulty of storage. This has been clearly proved by the following incident : Two cruisers, one French, the other English, were stationed in the South Seas in bad weather ; the French sailors were given wine, the English brandy, and the latter got scurvy, from which the others remained free. The inorganic materials of wine, and especially the salts of potash, had served in this case to complete the alimentation.

80 Wine is very useful in some morbid cases. I have too often proved its utility for glycosuric patients, when taken moderately, not to advise it always

for them. In cold and damp countries good food, aided by a judicious proportion of red wine, has an incontestable if not unfailing preservative power.

It is not easy to make a faultless classification of the infinite number of wines produced in the various countries where the vine is cultivated. This subject has occupied my attention for a long time back. My classification has been reproduced, but incorrectly, in several classical works; here is the one I have chosen for my course of lectures as being the best for hygienic studies :

CLASSIFICATION OF RED AND WHITE WINES.

1. *Wines in which one of the essential principles of wine dominates.*

A Alcoholic	{	Dry wines.	Madeira, Marsala
		Sweet wines.	Malaga, Lunel
		Straw (1) wines . . .	Arbois, Hermitage
B Astringent Tannic	{	With sugar and alcohol.	Saint Raphaël
		Not sweet.	Cahors
C Acid	{	With bouquet	Rhine wine
		Without bouquet . .	Gouais, Argenteuil wine.
D Sparkling			Champagne

2. *Mixed wines.*

A With bouquet	{	Bourgogne: Clos Vougeot, Mont Racht
		Medoc : Château-Larose, Sauterne
		Côtes du Rhône : Hermitage
		South : Langlade, Saint-Georges
B Without bouquet. . .		Common Burgundy and Bordeaux

1. The grapes are left to dry on straw, whence the name.

I do not admit the division into red and white wines, any more than I think the distinction of green and purple grapes a natural one.

I think there is some importance in the first division I make, affirming either the harmony of the immediate principles found in the wine, or the predominance of one of these principles.

The first division comprises the alcoholic wines: these wines, as delivered in trade, are almost always overalcoholised. They contain, in fact, almost as much as 25 per 100 of alcohol, while fermentation only develops 15. They are alcoholic and perfumed, and have the same drawbacks, practically, as alcohol. It is the same with alcoholic sweet wines. Some are produced directly by the fermentation of the grape juice; others are made from the juice reduced by heat, and are besides alcoholised.

In the hygienic, therapeutic point of view, tannic astringent sweet wines, such as the wine of St. Raphaël, far surpass those which are merely alcoholic or alcoholic and sweet, because they are much better suited to the requirements of the digestive apparatus when taken in moderate doses.

What kind of wine to choose for cold countries is by no means a matter of indifference. The use of one class is specially indicated for them — it is that of astringent wines, St Raphaël at their head.

I shall enter into some details with respect to this wine, which is remarkable in so many ways.

St. Raphaël, prescribed by all the doctors of the Paris hospitals, is a wine of the highest class; the grape ripens in a climate peculiarly favourable to the culture of the vine; the ground is broken, rocky, with steep slopes, warm, and perfectly sheltered from the west winds.

On the mountain sides or spurs where the vine is cultivated, there is an agglomeration of hillocks placed one above another, forming narrow valleys, composed exclusively of schistose or granitic rocks. The vines are planted on terraces which retain the earth carried up to the bare parts every year by the vine-dressers. They use little or no manure. The southern aspect, the best for producing a high quality of wine, is exclusively adopted. Only one kind of grape is cultivated in the vineyards which produce the choice wine of St. Raphaël. Relatively to the mean temperature of the place, the vintage is rather late; they wait for complete ripeness. Part of the produce is lost by the evaporation of the water from the grapes; it is gained in quality.

The unripe, decayed, or withered grapes are separated with the greatest care. The picking from the clusters only takes place exceptionally; it is practised only when there are too many bunches

which have not yet acquired, in the woody parts, the appearance of complete maturity.

In crushing the grapes, the greatest care is used to avoid crushing the grape-stones; the most scrupulous attention being paid to this important point.

Thus it is by a multiplicity of minute and intelligent precautions that this excellent wine is procured. The vineyards, too, are but little productive, and do not give on an average more than 6 or 8 hectolitres to the hectare; a tenth part of ordinary growths.

The use of plaster is strictly banished from the preparation of this wine, and they have given up the use of the grape-must reduced by evaporation as is practised with several of the most celebrated Spanish dessert wines. They very wisely prefer gathering the grape when perfectly ripe, when a portion of its water has been lost by evaporation. It is by a similar process that the most exquisite straw wines are produced. The fermentation is effected, as far as possible, in a medium temperature, in vats of moderate capacity; it continues during from 35 to 40 days. Its duration is in inverse ratio to the capacity of the vats, and in direct ratio to the maturity of the grapes.

A long fermentation in the uncrushed cluster (1)

1. The clusters are left to dry, and a fermentation takes place which reduces the watery parts. — *Translator's Note.*

serves to dissolve the colouring and astringent matters more completely. These tannic matters have certainly contributed to the success of St. Raphaël in the civil hospital and asylums, where it competes successfully with quinine wine as a tonic and strengthener, without having any of its drawbacks. We shall return to this subject presently.

St. Raphaël surpasses the Spanish wines as a tonic and corroborative, because of the tannic matters with which long fermentation has loaded it. There is no wine which has more body, more real strength. The unpressed wine is not mixed with the pressed; it is by such precautions that the tannic corroborative wine of St. Raphaël is obtained.

St. Raphaël has been justly compared to quinine wine, which renders such services in cold countries. M. M. E. Bégin has made the comparison in the "Medical Union" of the 8th of May, 1873, in the following terms :

"Good bark is the basis of two totally distinct preparations : the febrifuge and the tannic; febrifuge preparations may in our day be reduced practically to two salts, sulphate of quinine in the first place: and in a much lower place sulphate of cinchonine."

Among the tannic preparations of bark, the extract and wine are to be remarked.

These two preparations, which contain a notable proportion of a special tannin, owe their tonic properties chiefly to this immediate principle; we shall prove it.

Garrod has tried to ascertain how much alkaloid the bark wine richest in quinine, the Calisaya, contains, and he found that there was scarcely 5 centigrammes of alkaloid in a wine-glassful of it. I will add that the wine analysed by Garrod was prepared with a double dose of Calisaya bark, which is that adopted by the last Codex, and that this skilful experimentalist had taken every care to secure the complete exhaustion of the bark. One cannot admit that so small a quantity of bark can have any therapeutic effect. Then, when it is made with a highly coloured wine, the greatest part of the alkaloid is precipitated by the colouring matter, by the tannin of the wine, which is thus *eliminated* and remains on the filter. Henry, senior, insisted on this fact long ago.

It is so true that quinine wine owes its tonic properties chiefly to the vehicle which is used for preparing it, and to the tannin which the bark contains that the Medical Council of the civil hospitals and asylums of Paris would not adopt the formula of the new Codex for these establishments, but decided — with all the authority conferred by long and judicious observation — on preserving the old formula,

and continuing to put sixty grammes of Huanaco bark to a litre of quinine wine, instead of thirty grammes of Calisaya bark as prescribed by the new Codex.

Now every one knows that the Huanaco, like the best grey barks, contains but a very small proportion of febrifuge alkaloids, but contains, on the contrary, a high rate of tannin.

X Judging from these incontestable data, we are obliged to conclude that a wine *rich in tannic principles* unites the essential conditions of quinine wine (made with the best Huanaco bark, and very good wine) both as to its composition and its properties.

X X Observation confirms this conclusion. Every day in the Paris hospitals quinine wine or St. Raphaël are employed with equal success in the same class of cases : to restore strength to patients weakened by age or disease, and to revive the energy of their digestive apparatus. St. Raphaël contains more tannin than any known wine, *it is a natural quinine wine*; all combines to give it the first rank. All the processes employed for dosing tannin show that St. Raphaël contains more of this immediate principle than the best prepared quinine wine.

This explains the similarity of effect proved by more than thirty years' experience in all the hospitals of Paris.

au bon

St. Raphaël has the advantage over quinine wine in its infinitely pleasanter flavour; there is no remedy better liked by the patient; a wine-glassful ought to be taken after each meal.

Let us now cast a rapid glance at the most important therapeutic applications of St. Raphaël.

In cold and damp countries there are numerous cases of languor of the digestive functions, whether from atony of the organs, or from insufficiency of food. The best remedies are bouillon and well-selected wine. These two alimentary liquids do not require the intervention of the digestive ferments for their assimilation, they are admirably adapted to our organs. Bouillon is to be especially recommended after protracted illnesses where low diet has been long necessary, exhausting the matters most useful for the repair and working of the organs. These substances exist in the decoction of muscle, which is the foundation of bouillon.

A generous wine, well adapted to the digestive apparatus, is advisable not only in convalescence from long illness, but also, and especially in cases of general debility of the system, of atony of the organs of digestion.

These points being settled, we shall see that all wines are not alike; observation has shown that some of them are distinguished by special properties.

It is certain that the alcohol contained in wine contributes considerably to the desired result, but what gives well-selected wine the superiority over alcohol, even diluted to the same alcoholic degree, is, that such wines contain principles which moderate and regulate the alcoholic action, and have a most favourable influence on the digestive apparatus.

Tannin, and the colouring matters of wine, occupy the first place among these principles.

Daily observation shows that, with the same proportion of alcohol, wines rich in tannic and astringent principles excite the brain much less than alcoholic wines. They contain also, as M. Fauré has shown, a small quantity of iron, which is found there in the best form for giving to the globules of the blood an element indispensable to their constitution; wine is the best adjunct to the diet of persons who do not easily digest vegetables.

The Digestive apparatus is made succulent by the action of such agents.

St. Raphaël takes the first place among the wines possessing these qualities; there are none which contain more tannin and tonic colouring matter; none which contain more natural iron, for the richer the colour of the wine, the more of this metal it possesses.

Stomach *anaphor*

Thus all the ingredients best suited for repairing the waste of the system are found united in the

most convenient form in this valuable *aliment*. In convalescence from long maladies, this wine should be taken only in small doses. The digestive apparatus must be gradually accustomed to the contact of an exciting body, whose influence it has not yet experienced.

X X In chlorosis, general debility, anæmia, various losses, senile weakness, a wine-glass of St. Raphaël is to be taken at the end of each meal.

If there is a marked decrease of strength during the day, a liqueur-glass of this excellent cordial may be taken every two hours.

X Let us revert to the different forms of anæmia, which may be called the foundation of the temperament of the inhabitants of cold countries. Moderate doses of St. Raphaël may render great services in these cases. Anæmia is often developed by protracted cold, by insufficient food; it exists also frequently among too well-fed people, whose alimentation is irregular and too abundant, considering the absence of bodily labour.

The influence of the moral nature over the physical is often evidenced in these manifestations of anæmia. Melancholy preoccupations, violent grief, business cares, nervous, unwholesome over-excitement at the time of puberty in girls, and during

pregnancy and the menopause with women; all these are moral states which produce anæmia, in consequence of a slackening in the energy of the digestive apparatus.

A number of chronic affections, such as albuminuria, scrofula, intermittent fevers, and the most different poisonings, etc., lead to special anæmic states.

In all these cases a wine-glass of a tannic corroborative wine, such as St. Raphaël, at the beginning or end of each meal, is the best cordial for rousing the energy of the digestive functions and restoring harmony in the great nutritive apparatus.

Dr. M. E. Bégin has shown what services St. Raphaël can render in gouty cachexy. In cold countries the abnormal symptoms characteristic of irregular gout, are frequently noticed in persons who have never had a fit of regular gout.

It is evident also that gout and the gouty predisposition bring on in time considerable modifications in the general working of the digestive functions, and that this state is favourable to the development of a good many organic affections.

When gout flies, as it is said, to the stomach, the symptoms observed are generally those of great

oppression and anxiety, often accompanied by gastric pains and vomiting. When it goes to the heart there are feelings of tightness in the chest, violent palpitations, great anxiety, difficulty of breathing; at the same time there is a small thready pulse, with other symptoms of syncope. When it goes to the brain, it produces either an apoplectic state, or excitement, mania, etc.

It is true that there are many difficulties in deciding on the real importance of the foregoing symptoms, especially when the characteristic manifestations of gout have never been plainly marked at any period of the patient's life. But in the special case under consideration, the doubt ought not to involve any injury to the patient, nor be opposed to the indication we insist on.

It is only in the atonic forms that the tannic wine of St. Raphaël can be usefully prescribed.

It is not evidently with respect to the cause of gout that its influence can be salutary. If it becomes useful in this point of view, it is only by invigorating the whole system.

X In all these abnormal affections, it is only when there is a state of general chronic languor, it is only in the manifold forms of anæmia among people who keep a good table, but do not take sufficient exercise, that St. Raphaël renders valuable services

Principal conditions for the administration of St. Raphaël.

All the great physicians who have succeeded one another in the Paris hospitals have prescribed St. Raphaël daily. Among the most illustrious who are now dead, we may name : Magendie, Rostan, Chomel, Velpeau, Requin, Monneret, Trousseau, Grisolles.

It is chiefly given when the deficient energy of the nutritive system has to be restored, and for these cases there is no better remedy. It is in this way that it is so useful in cases of anæmia, of general lowering of the system, with torpor of the digestive functions; so useful also to the weak and convalescent. According to Chomel, Trousseau, Monneret, and Grisolles this precious modifier has helped to save the lives of patients whose state seemed hopeless.

In intermittent fevers, which do not yield to quinine, St. Raphaël in moderate, gradual doses produces the most excellent effects. Todd and Professor Béhier have tried alcohol in pneumonia successfully. Laennec, Fonssagrives, and Grisolles prefer wine when the malady is accompanied by alarming symptoms of sinking and of total prostration.

In the varied forms of debility this excellent tonic is of the greatest use.

It is equally suitable in scrofulous and cancerous affections, in the cachexy which follows upon slow miasmatic or saturnine blood-poisoning; in fact, in all cases where the vital forces of the system need rousing, and particularly in passive hæmorrhage, and in some of the most obstinate female complaints.

Small doses of St. Raphaël, judiciously administered, excite an energy which helps and regulates those nutritive functions whose languor is the premonitor or the escort of so many chronic diseases.

We will say in conclusion : If the moderate use of alcohol is less to be dreaded in temperate or cold countries than in the intertropical regions, all danger disappears when the alcohol is combined with a considerable quantity of astringent and tannic principles, as is the case with St. Raphaël.

There is certainly no more efficacious and more harmless modifier for raising the energy of the nutritive functions by favourably reviving the activity of the nervous system.

THE END.

